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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,619	11/27/2001	Fumio Abe	1190-0531P	8233

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EXAMINER

COLON, GERMAN

ART UNIT PAPER NUMBER

2879

DATE MAILED: 07/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/993,619

Applicant(s)

ABE ET AL.

Examiner

German Colón

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The Amendment, filed on April 30, 2003, has been entered and acknowledged by the Examiner.
2. Addition of claims 3 and 4 has been entered.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claim (lines 6-16) comprises the limitation of “when a preceding one of adjacent layers is formed, the conductor is routed through a preceding one of adjacent ones of the plurality of second grooves and a preceding one of adjacent ones of the plurality of third grooves, and when a following one of the adjacent layers is formed, the conductor is routed through a following one of the adjacent ones of the plurality of second grooves and a preceding one of the adjacent ones of the plurality of third grooves”. However, the specification (see Page 7, lines 16-20) only teaches to provide said plurality of second and third grooves so that the turns

of the coil will not be concentrated in only one of the grooves, and omits the level of detail presented in the claim.

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeuchi (EP 0 572 192) in view of Murata (JP 06-168677).

Ikeuchi discloses a deflection yoke apparatus comprising:

a saddle-type coil bobbin **2** having a front end portion and a rear end portion (see Fig. 10);

first guide grooves formed in an inner surface of said coil bobbin and extending across the front end portion and the rear end portion (see Fig. 10);

at least one second guide groove formed in the front end portion;

at least one third guide groove formed in the rear end portion; and

a multi-wire conductor wound around said coil bobbin, the conductor being routed through said first guide grooves, said at least one second guide groove, and said at least one third guide groove.

Ikeuchi is silent regarding the limitation of "said second guide groove and third guide groove having a width in a range of 1.0 to 1.5 times a diameter of said conductor".

However, in the same field of endeavor, Murata discloses a deflection yoke having guide grooves in a range of 1.0 to 1.5 times a diameter of a conductor in order to improve the deflecting efficiency by regulating a coil winding position in an accurate manner, reducing winding deviation of the coil, reducing dispersion of coil distribution with every deflection yoke and reducing the possibility of generating corona discharge (see paragraphs [0011] and [0012]). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide guiding grooves in a range of 1.0 to 1.5 times a diameter of the conductor with the purpose of improving the deflecting efficiency by regulating a coil winding position in an accurate manner, reducing winding deviation of the coil, reducing dispersion of coil distribution with every deflection yoke and reducing the possibility of generating corona discharge.

The Examiner notes that Murata teaches to provide a groove satisfying the relation  $W_1 < W_3 < W_1 + W_0$ , where  $W_1$  is the width of the multi-wire conductor,  $W_3$  is the width of the groove, and  $W_0$  is the width of a wire of the multi-wire conductor (see paragraph [0010]). Murata further teaches the multi-wire conductor comprising at least two wires. For a case where the multi-wire conductor comprises at least two wires, and considering the width of said multi-wire conductor as 1, then the width  $W_3$  of the groove lies in a range given by  $1 < W_3 < 1.5$ .

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeuchi-Murata as applied to claim 1 above, and further in view of Osinga et al (US 4,484,166).

Ikeuchi-Murata discloses the claimed invention but is silent regarding the limitation of "said at least one second guide groove is one of a plurality of second guide grooves aligned in

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parallel and said at least one third guide groove is one of a plurality of third guide grooves aligned in parallel”.

However, in the same field of endeavor, Osinga discloses a deflection yoke with a plurality of guide grooves aligned in parallel with the purpose of allowing the adjustment of the length of the coils of the two deflection coil systems independently of each other at the values desired for a given deflection unit-display tube combination, which is important for realizing automatic convergence (see Col. 4, lines 64-68, and Col. 5, lines 1-2). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a plurality of grooves aligned in parallel in order to allow the adjustment of the length of the coils of the two deflection coil systems independently of each other at the values desired for a given deflection unit-display tube combination, which is important for realizing automatic convergence.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christiana et al. (US 3,601,731) in view of Hirota et al. (JP 01-151134).

Christiana discloses a deflection yoke apparatus **100** comprising:

a saddle-type coil bobbin having a front end portion and a rear end portion (see Fig. 1);

first guide grooves formed in an inner surface of said coil bobbin and extending across the front end portion and the rear end portion (see Fig. 2);

at least one second guide groove **136** formed in the front end portion; and

at least one third guide groove **138** formed in the rear end portion.

Christina fails to disclose the limitations of “a multi-wire conductor wound around said saddle-type coil bobbin having a substantially circular cross section” and “wherein said at least one second groove and said at least one third guide groove have a width in a range of 1.0 to 1.5 times a diameter of said conductor”.

However, in the same field of endeavor, Hirota discloses a deflection yoke comprising a multi-wire conductor having a substantially circular cross-section, said multi-wire conductor being wound around a saddle-type bobbin with the purpose of improving the winding precision by bundling in parallel multiple conductor fine wires without being untangled, therefore reducing winding deviation of the coil, reducing dispersion of coil distribution with every deflection yoke and reducing the possibility of generating corona discharge. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the multi-wire conductor disclosed by Hirota, since Hirota teaches said multi-wire conductor improves the winding precision by bundling in parallel multiple conductor fine wires without being untangled, therefore reducing winding deviation of the coil, reducing dispersion of coil distribution with every deflection yoke and reducing the possibility of generating corona discharge.

Christiana-Hirota is silent regarding the limitation of “said at least one second groove and said third guide groove having a width in a range of 1.0 to 1.5 times a diameter of said conductor”. However, it would have been obvious to one person skilled in the art to provide said at least one second groove and said at least one third groove with a width of at least 1 time a diameter of said multi-wire conductor in order for the multi-wire conductor to be positioned in said grooves. Thus, Christiana-Hirota teaches a width  $W$  in a range  $\geq 1$  time the diameter of said conductor.

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***Response to Arguments***

9. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

***Contact Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 703-305-5987. The examiner can normally be reached on Monday thru Friday, from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 703-305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7382 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

gc

July 2, 2003



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